

**IN THE CLAIMS:**

Please cancel claims 1-15 without prejudice or disclaimer, and substitute new

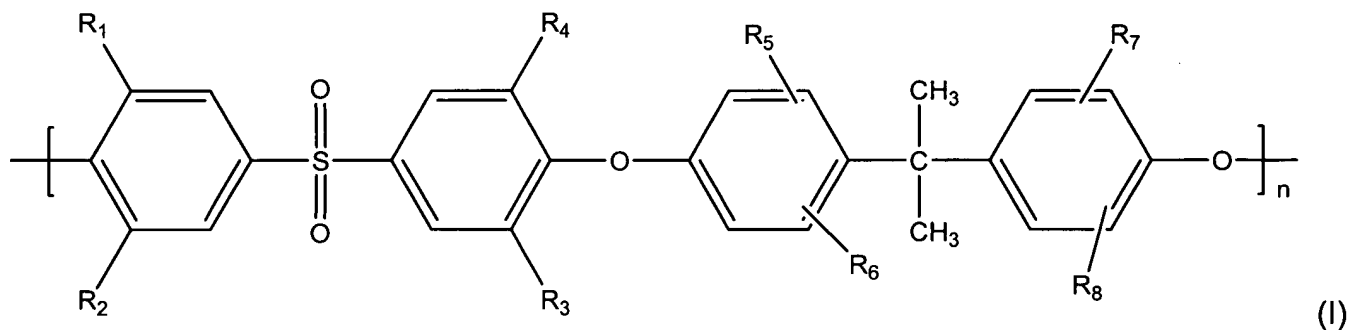
Claims 16-30 therefor as follows:

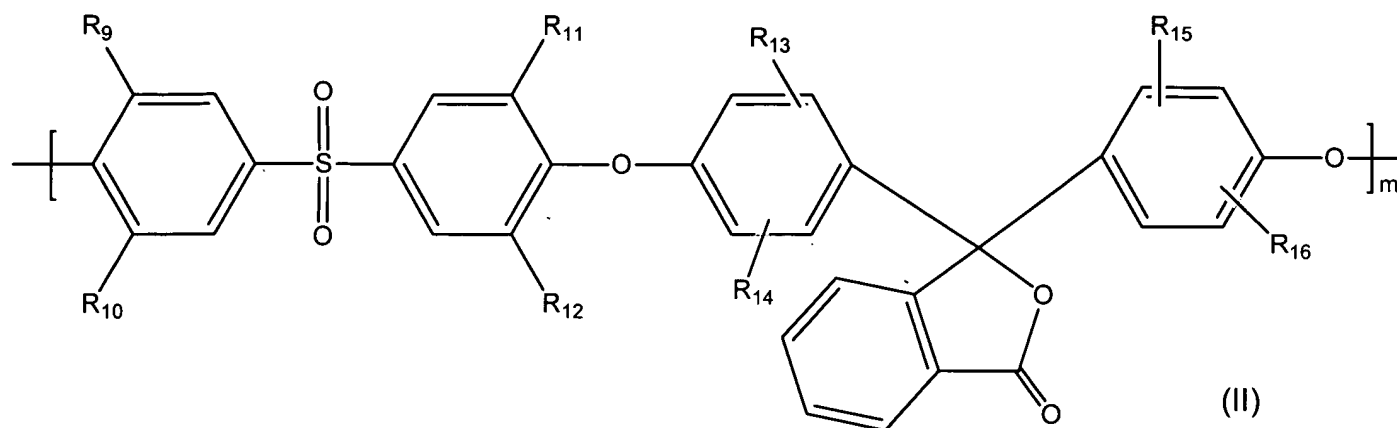
Claims 1-15 (Cancelled).

16. (New) A fuel cell comprising a membrane-electrode assembly comprising:

- (a) an anode;
- (b) a cathode; and
- (c) a polymer electrolyte membrane interposed between the anode and the cathode,

said polymer electrolyte membrane comprising a sulfonated polysulfone polymer having the following repeating units:





wherein

$R_1$ - $R_{16}$  are independently hydrogen, a  $\text{SO}_3\text{H}$  group, a methyl group, an ethyl group or an optionally branched ( $\text{C}_{3-6}$ )alkyl group, with the proviso that at least one of  $R_1$ - $R_{16}$  is a  $\text{SO}_3\text{H}$  group;

$n+m$  is an integer from 10 to 1,000 inclusive;

$n$  is an integer from 0 to 999 inclusive; and

$m$  is an integer from 1 to 1,000 inclusive,

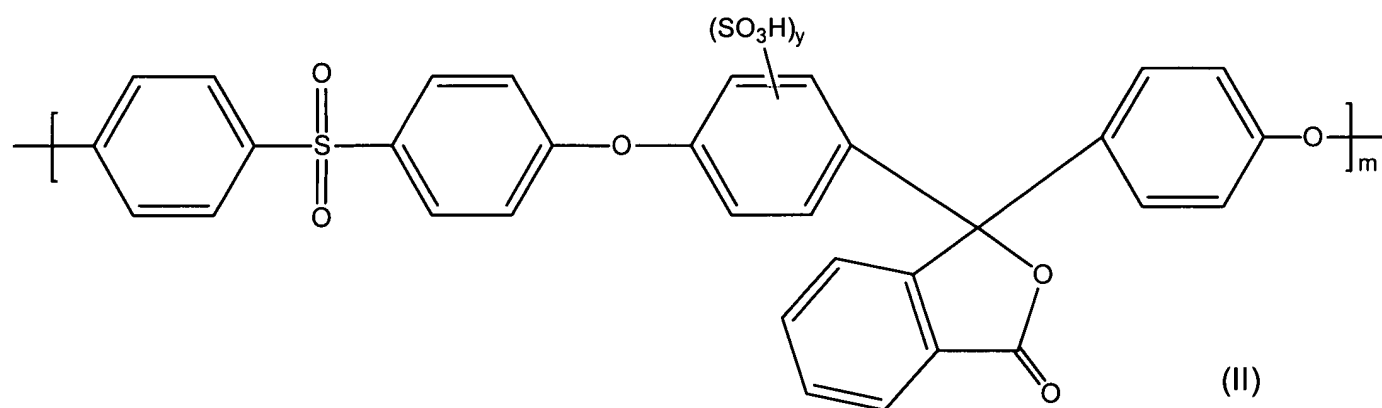
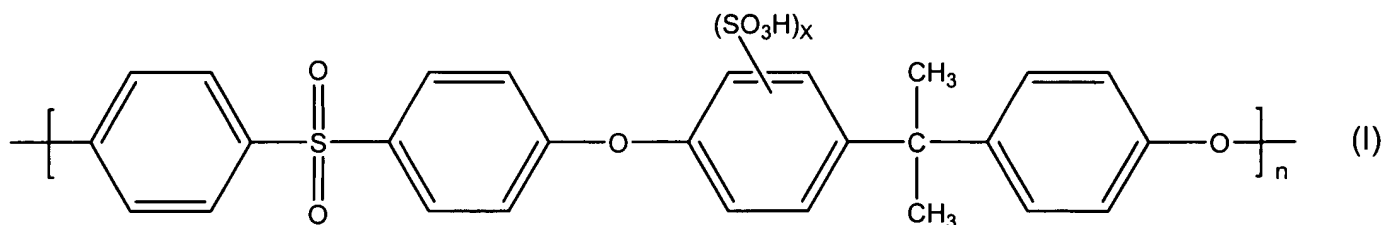
and salts thereof.

17. (New) The fuel cell according to claim 16, wherein at least one of  $R_{13}$ - $R_{16}$  is a  $\text{SO}_3\text{H}$  group.

18. (New) The fuel cell according to claim 16, wherein  $R_1$ - $R_4$  and  $R_9$ - $R_{12}$  is hydrogen.

19. (New) The fuel cell according to claim 17, wherein at least one of  $R_5$ - $R_8$  and  $R_{13}$ - $R_{16}$  is  $\text{SO}_3\text{H}$ .

20. (New) The fuel cell according to claim 16, wherein said polymer electrolyte membrane comprises on a sulfonated polysulfone polymer having the following repeating units:



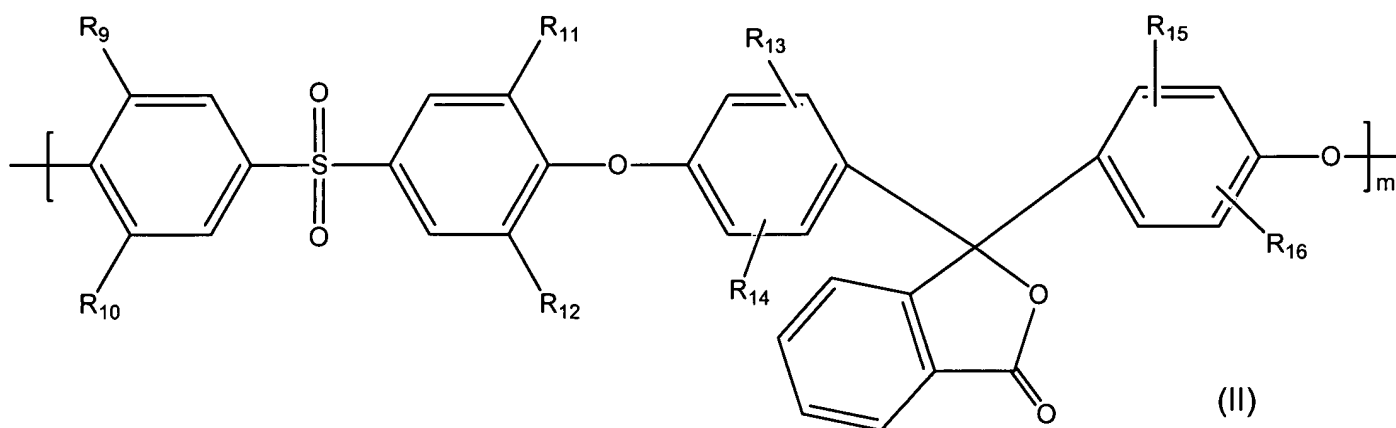
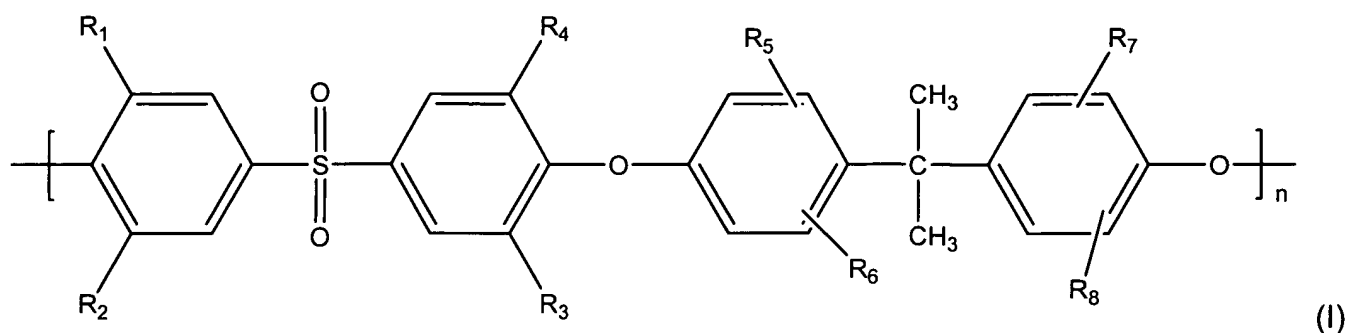
Wherein  $x+y$  is 1 and  $n=m$ .

21. (New) The fuel cell according to claim 16, wherein said polymer has a sulfonic content of about 0.5-3.5 meq/g.

22. (New) The fuel cell according to claim 20, wherein said polymer has a sulfonic content of about 0.7-2.3 meq/g.

23. (New) The fuel cell according to claim 21, wherein said polymer has a sulfonic content of about 0.8-1.3 meq/g.

24. (New) The fuel cell according to claim 16, wherein the polymer is amorphous.
25. (New) The Fuel cell according to claim 16, wherein the cathode and/or the anode comprises a sulfonated polysulfone.
26. (New) The fuel cell according to claim 16, wherein the cathode and/or the anode comprises a sulfonated polysulfone polymer having the repeating units of claim 16.
27. (New) The fuel cell according to claim 16, comprising a hydrogen fuel cell.
28. (New) A membrane-electrode assembly comprising:
- (a) an anode;
  - (b) a cathode; and
  - (c) a polymer electrolyte membrane interposed between the anode and the cathode,
- said polymer electrolyte membrane comprising a sulfonated polysulfone polymer having the repeating units:



wherein

$R_1$ - $R_{16}$  are independently hydrogen, a  $\text{SO}_3\text{H}$  group, a methyl group, an ethyl group or an optionally branched ( $\text{C}_{3-6}$ )alkyl group, with the proviso that at least one of  $R_1$ - $R_{16}$  is a  $\text{SO}_3\text{H}$  group;

$n+m$  is an integer from 10 to 1,000 inclusive;

$n$  is an integer from 0 to 999 inclusive; and

$m$  is an integer from 1 to 1,000 inclusive,

and salts thereof.

29. (New) An apparatus powered by the fuel cell of any one of claims 16 to

27.

30. (New) The apparatus according to claim 29, comprising an engine for vehicle transportation, a power supply unit or an electronic portable device.